

AMENDMENTS TO CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-24 (Cancelled)

25. (Previously Presented) A document categorizing method for categorizing a plurality of documents in an electronic system according to semantic similarity, said method comprising:

obtaining a plurality of clusters of documents, each cluster having a distinctive name;

evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

wherein:

if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first naming convention indicative of a degree of relation between said first and second predetermined values; and

if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein:

said first naming convention includes a concatenation of at least a name segment of each of said constituent evaluated clusters with a first delimiter inserted between the concatenated name segments; and

said second naming convention includes a concatenation of at least a name segment of each of said constituent evaluated clusters with a second delimiter, different from said first delimiter, inserted between the concatenated name segments.

26. (Previously Presented) The document categorizing method of claim 25, wherein said second delimiter is a blank space.

27. (Previously Presented) The document categorizing method of claim 25, wherein the full name of said constituent evaluated clusters are concatenated in said first and second naming conventions.

28. (Previously Presented) A document categorizing method for categorizing a plurality of documents in an electronic system according to semantic similarity, said method comprising:

- obtaining a plurality of clusters of documents, each cluster having a distinctive name;

- evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

- merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

- assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

- wherein:

- if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first naming convention indicative of a degree of relation between said first and second predetermined values; and

- if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein said new combined cluster constitutes a cluster combination, said method further comprising:

determining a degree of relation between a previously uncombined cluster within said plurality of said clusters with said cluster combination by evaluating their similarity based on the documents included in said uncombined cluster and said cluster combination;

merging the evaluated uncombined cluster and the evaluated cluster combination into a newer combined cluster when their degree of relation is determined to be not less than said predetermined first value;

assigning a newer name to said newer combined cluster based on the degree of relation between its constituent evaluated previously uncombined cluster and evaluated cluster combination, wherein if their degree of relation is less than said second predetermined value, the newer name assigned to said newer combined cluster conforms to a third naming convention, and wherein if their degree of relation is not less than said second predetermined value, the newer name assigned to said newer combined cluster conforms to a fourth naming convention.

29. (Previously Presented) The document categorizing method of claim 28, wherein:

said third naming convention includes a concatenation of a first part including at least a name segment of the constituent previously uncombined cluster and a second part including the full name of the constituent combined cluster enclosed within parenthesis, and includes said first delimiter inserted between the concatenated first and second parts; and

said fourth naming convention includes a concatenation of a first part including at least a name segment of the constituent previously uncombined cluster and a second part including the full name of the constituent combined cluster enclosed within parenthesis, and includes said second delimiter inserter between the concatenated first and second parts.

30. (Previously Presented) A document categorizing method for categorizing a plurality of documents in an electronic system according to semantic similarity, said method comprising:

obtaining a plurality of clusters of documents, each cluster having a distinctive name;

evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

wherein:

if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first naming convention indicative of a degree of relation between said first and second predetermined values; and

if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein said new combined cluster constitutes a cluster combination, said method further comprising:

obtaining a plurality of said cluster combinations, each cluster combination having a distinctive name;

determining a degree of relation between at least two cluster combinations by evaluating the similarity between the evaluated cluster combinations based on the documents included in the respective evaluated cluster combinations;

merging the evaluated cluster combinations into a new combined cluster combination when their degree of relation is determined to be not less than said predetermined first value;

assigning a new name to said new combined cluster combination based on the degree of relation between its constituent cluster combinations, wherein if the degree of relation of its constituent cluster combinations is less than said second predetermined value, the new name assigned to said new cluster combination

conforms to a fifth naming convention indicative of a degree of relation between said first and second predetermined values, and wherein if the degree of relation of its constituent cluster combinations is not less than said second predetermined value, the new name assigned to said new combined cluster combination conforms to a sixth naming convention indicative of a degree of relation not less than said second predetermined value.

31. (Previously Presented) The document categorizing method of claim 30, wherein:

said fifth naming convention includes a concatenation of the full name of each evaluated cluster combination, with each full name enclosed within parenthesis and separated by said first delimiter; and

said sixth naming convention includes a concatenation of the full name of each evaluated cluster combination, with each full name enclosed within parenthesis and separated by said second delimiter.

32. (New) A machine readable memory medium having machine executable instructions for categorizing a plurality of documents in an electronic system according to semantic similarity, said machine readable memory medium comprising:

obtaining a plurality of clusters of documents, each cluster having a distinctive name;

evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

wherein:

if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first

naming convention indicative of a degree of relation between said first and second predetermined values; and

if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein:

said first naming convention includes a concatenation of at least a name segment of each of said constituent evaluated clusters with a first delimiter inserted between the concatenated name segments; and

said second naming convention includes a concatenation of at least a name segment of each of said constituent evaluated clusters with a second delimiter, different from said first delimiter, inserted between the concatenated name segments.

33. (New) The machine readable memory medium of claim 32, wherein said second delimiter is a blank space.

34. (New) The machine readable memory medium of claim 32, wherein the full name of said constituent evaluated clusters are concatenated in said first and second naming conventions.

35. (New) A machine readable memory medium having machine executable instructions for categorizing a plurality of documents in an electronic system according to semantic similarity, said machine readable memory medium comprising:

obtaining a plurality of clusters of documents, each cluster having a distinctive name;

evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

wherein:

if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first naming convention indicative of a degree of relation between said first and second predetermined values; and

if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein said new combined cluster constitutes a cluster combination, said machine readable memory medium further comprising:

determining a degree of relation between a previously uncombined cluster within said plurality of said clusters with said cluster combination by evaluating their similarity based on the documents included in said uncombined cluster and said cluster combination;

merging the evaluated uncombined cluster and the evaluated cluster combination into a newer combined cluster when their degree of relation is determined to be not less than said predetermined first value;

assigning a newer name to said newer combined cluster based on the degree of relation between its constituent evaluated previously uncombined cluster and evaluated cluster combination, wherein if their degree of relation is less than said second predetermined value, the newer name assigned to said newer combined cluster conforms to a third naming convention, and wherein if their degree of relation is not less than said second predetermined value, the newer name assigned to said newer combined cluster conforms to a fourth naming convention.

36. (New) The machine readable memory medium of claim 35, wherein:

said third naming convention includes a concatenation of a first part including at least a name segment of the constituent previously uncombined cluster and a second part including the full name of the constituent combined cluster enclosed within parenthesis, and includes said first delimiter inserted between the concatenated first and second parts; and

said fourth naming convention includes a concatenation of a first part including at least a name segment of the constituent previously uncombined cluster and a second part including the full name of the constituent combined cluster enclosed within parenthesis, and includes said second delimiter inserter between the concatenated first and second parts.

37. (New) A machine readable memory medium having machine executable instructions for categorizing a plurality of documents in an electronic system according to semantic similarity, said machine readable memory medium comprising:

- obtaining a plurality of clusters of documents, each cluster having a distinctive name;

- evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

- merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

- assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

- wherein:

- if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first naming convention indicative of a degree of relation between said first and second predetermined values; and

- if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

- wherein said new combined cluster constitutes a cluster combination, said memory medium further comprising:

- obtaining a plurality of said cluster combinations, each cluster combination having a distinctive name;

determining a degree of relation between at least two cluster combinations by evaluating the similarity between the evaluated cluster combinations based on the documents included in the respective evaluated cluster combinations;

merging the evaluated cluster combinations into a new combined cluster combination when their degree of relation is determined to be not less than said predetermined first value;

assigning a new name to said new combined cluster combination based on the degree of relation between its constituent cluster combinations, wherein if the degree of relation of its constituent cluster combinations is less than said second predetermined value, the new name assigned to said new cluster combination conforms to a fifth naming convention indicative of a degree of relation between said first and second predetermined values, and wherein if the degree of relation of its constituent cluster combinations is not less than said second predetermined value, the new name assigned to said new combined cluster combination conforms to a sixth naming convention indicative of a degree of relation not less than said second predetermined value.

38. (New) The machine readable memory medium of claim 37, wherein:

said fifth naming convention includes a concatenation of the full name of each evaluated cluster combination, with each full name enclosed within parenthesis and separated by said first delimiter; and

said sixth naming convention includes a concatenation of the full name of each evaluated cluster combination, with each full name enclosed within parenthesis and separated by said second delimiter.

39. (New) A document categorizing apparatus for categorizing a plurality of documents in an electronic system according to semantic similarity, said apparatus comprising:

means for obtaining a plurality of clusters of documents, each cluster having a distinctive name;

means for evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

means for merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

means assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

wherein:

if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first naming convention indicative of a degree of relation between said first and second predetermined values; and

if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein:

said first naming convention includes a concatenation of at least a name segment of each of said constituent evaluated clusters with a first delimiter inserted between the concatenated name segments; and

said second naming convention includes a concatenation of at least a name segment of each of said constituent evaluated clusters with a second delimiter, different from said first delimiter, inserted between the concatenated name segments.

40. (New) The document categorizing apparatus of claim 39, wherein said second delimiter is a blank space.

41. (New) The document categorizing apparatus of claim 39, wherein the full name of said constituent evaluated clusters are concatenated in said first and second naming conventions.

42. (New) A document categorizing apparatus for categorizing a plurality of documents in an electronic system according to semantic similarity, said apparatus comprising:

means for obtaining a plurality of clusters of documents, each cluster having a distinctive name;

means for evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

means for merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

means for assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

wherein:

if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first naming convention indicative of a degree of relation between said first and second predetermined values; and

if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein said new combined cluster constitutes a cluster combination, said apparatus further comprising:

means for determining a degree of relation between a previously uncombined cluster within said plurality of said clusters with said cluster combination by evaluating their similarity based on the documents included in said uncombined cluster and said cluster combination;

means for merging the evaluated uncombined cluster and the evaluated cluster combination into a newer combined cluster when their degree of relation is determined to be not less than said predetermined first value;

means for assigning a newer name to said newer combined cluster based on the degree of relation between its constituent evaluated previously uncombined cluster and evaluated cluster combination, wherein if their degree of relation is less than said second predetermined value, the newer name assigned to said newer

combined cluster conforms to a third naming convention, and wherein if their degree of relation is not less than said second predetermined value, the newer name assigned to said newer combined cluster conforms to a fourth naming convention.

43. (New) The document categorizing apparatus of claim 42, wherein:

said third naming convention includes a concatenation of a first part including at least a name segment of the constituent previously uncombined cluster and a second part including the full name of the constituent combined cluster enclosed within parenthesis, and includes said first delimiter inserted between the concatenated first and second parts; and

said fourth naming convention includes a concatenation of a first part including at least a name segment of the constituent previously uncombined cluster and a second part including the full name of the constituent combined cluster enclosed within parenthesis, and includes said second delimiter inserted between the concatenated first and second parts.

44. (New) A document categorizing apparatus for categorizing a plurality of documents in an electronic system according to semantic similarity, said apparatus comprising:

means for obtaining a plurality of clusters of documents, each cluster having a distinctive name;

means for evaluating a degree of relation between at least two clusters by evaluating the similarity between the evaluated clusters based on the documents included in the respective evaluated clusters;

means for merging the evaluated clusters into a new combined cluster when their degree of relation is determined to be not less than a predetermined first value; and

means for assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters;

wherein:

if the degree of relation of said constituent evaluated clusters is less than a second predetermined value, which is greater than said first predetermined value, the new name assigned to said new combined cluster conforms to a first

naming convention indicative of a degree of relation between said first and second predetermined values; and

if the degree of relation of said constituent evaluated clusters is not less than said second predetermined value, the new name assigned to said new combined cluster conforms to a second naming convention indicative of a degree of relation not less than said second predetermined value; and

wherein said new combined cluster constitutes a cluster combination, said apparatus further comprising:

means for obtaining a plurality of said cluster combinations, each cluster combination having a distinctive name;

means for determining a degree of relation between at least two cluster combinations by evaluating the similarity between the evaluated cluster combinations based on the documents included in the respective evaluated cluster combinations;

means for merging the evaluated cluster combinations into a new combined cluster combination when their degree of relation is determined to be not less than said predetermined first value;

means for assigning a new name to said new combined cluster combination based on the degree of relation between its constituent cluster combinations, wherein if the degree of relation of its constituent cluster combinations is less than said second predetermined value, the new name assigned to said new cluster combination conforms to a fifth naming convention indicative of a degree of relation between said first and second predetermined values, and wherein if the degree of relation of its constituent cluster combinations is not less than said second predetermined value, the new name assigned to said new combined cluster combination conforms to a sixth naming convention indicative of a degree of relation not less than said second predetermined value.

45. (New) The document categorizing apparatus of claim 44, wherein:

said fifth naming convention includes a concatenation of the full name of each evaluated cluster combination, with each full name enclosed within parenthesis and separated by said first delimiter; and

said sixth naming convention includes a concatenation of the full name of each evaluated cluster combination, with each full name enclosed within parenthesis and separated by said second delimiter.